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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,100	06/25/2003	Huang-Chang Hsu	B-5135 621041-7	4234

36716 7590 10/19/2004

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EXAMINER

DINH, TRINH VO

ART UNIT PAPER NUMBER

2821

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/607,100

Applicant(s)

HSU ET AL.

Examiner

Trinh Vo Dinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5 and 19 is/are rejected.
- 7) ☒ Claim(s) 4,6-18 and 20-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***DETAILED ACTION***

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 5 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Chiang et al (US 6,420,839 B1).

With respect to claims 1 and 19, Chiang discloses, in Fig. 3, a transformer (10) for driving first and second discharge lamps (Lps, Lpm) comprising primary and secondary windings (12a in Fig. 5(c)), a first balancing circuit (Dp, Dn, Qp, Qn, Cx, Rs..) connected in series with the first discharge lamp, sensing a first lamp current ( Is) through the first discharge lamp to provide a first sensing signal (a signal from Vs to a non-inverting input of comparator 22), for adjusting the first lamp current in according with a matching signal (the output signal of 22), a second balancing circuit (Rm) connected in series with the second discharge lamp, sensing a second lamp current (Im) through the second discharge lamp to provide a second sensing signal (a signal from Vm to the inverting input of comparator 22), for adjusting the second lamp current in according with the matching signal, and a comparator (22) receiving the first and the second sensing signals, for comparing the first sensing signal to generate the matching signal used to control the

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first and the second balancing circuits, thereby equalizing the first and the second lamp currents (in abstract, or col. 4, lines 1-31, col. 5, lines 38+).

With respect to claims 2-3, Chiang discloses, in col. 4, lines 1-31, the comparator driving the matching signal to a first state when the first sensing signal is greater than the second sensing signal, and drive the matching signal to a second state when the first sensing signal is less than the second sensing signal. In addition, Chiang discloses the first balancing circuit comprising a first transistor circuit (Dp, Dn, Qp, Qn, Cx) in response to the matching signal, for decreasing the first lamp current (Is) when the matching signal in the first state (col. 4, lines 22-31), and for increasing the first lamp current when the matching signal is in the second state (col. 4, lines 1-22).

With respect to claim 5, Chiang discloses the first balancing circuit comprising a first coupling device (two diodes connected in series to Cx) connected between the comparator (22) and the first transistor (Dp, Dn, Qp, Qn, Cx) , for protecting against noise from the comparator.

***Allowed Subjected Matter***

3. Claims 12-18 are presently allowed.
4. Claims 4, 6-10, 20-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter:

The cited art of record fails to teach the second balancing circuit comprising a second transistor circuit, in response to the matching signal, for increasing the second

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lamp current when the matching signal is in the first stage, and for decreasing the second lamp current when the matching signal is in the second state as defined in claims 4 and 20, or the first balancing circuit comprising a first rectifier circuit having an input port and an output port, where one terminal of the input port is coupled to the first discharge lamp and terminals of the output port are coupled across the first transistor circuit as defined in claim 7, or drive circuitry for controlling the resonant push-pull converter to regulate the AC voltage in according with the first sensing signal, in which the input of the drive circuitry receives a DC voltage and the output of the drive circuitry is coupled to the transformer' primary winding as defined in claims 11, 12 and 24,

### *Inquiry*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Vo Dinh whose telephone number is (571) 272-1821. The examiner can normally be reached on Monday to Friday from 9:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'Trinh Vo Dinh', with a long horizontal flourish extending to the right.

*Trinh Vo Dinh*  
*October 16, 2004*